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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,424	10/16/2003	Jhon Jhy Liaw	24061.39 / TSMC2002-0030	8019
42717	7590	09/06/2005	EXAMINER	
HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100 DALLAS, TX 75202			CHEN, KIN-CHAN	
			ART UNIT	PAPER NUMBER
			1765	
DATE MAILED: 09/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/687,424

Applicant(s)

LIAW, JHON JHY

Examiner

Kin-Chan Chen

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The previous office action (*Ex Parte Quayle*, May 23, 2005) is withdrawn. The prosecution hereby is reopened. A new ground of rejection (non-final rejection) is set forth below.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by S.Wolf (Silicon Processing for the VLSI Era, vol. 2, pages 354-355).

S.Wolf discloses that a substrate having an active layer, a dielectric layer and a structural layer may be provided. An opening may be formed through the active layer. A surface of the dielectric layer may be exposed and the active layer sidewalls are defined. A spacer (e.g., oxide) covering a first portion of the exposed dielectric layer surface may be formed and substantially spanning one of the active layer sidewalls. As to dependent claim 2, see Fig. 5-30 also.

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3. Claims 1, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sun et al. (US 6,150,286).

Sun discloses that a substrate having an active layer, a dielectric layer and a structural layer may be provided. An opening may be formed through the active layer and a surface of the dielectric layer may be exposed and the active layer sidewalls are defined. A silicide may be formed over the active layer. A spacer (e.g., oxide) covering a first portion of the exposed dielectric layer surface may be formed and substantially spanning one of the active layer sidewalls. See col. 5, line 48 through col. 6; Figures.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-7, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over S.Wolf (Silicon Processing for the VLSI Era, vol. 2, pages 354-355).

S.Wolf discloses that a substrate having an active layer, a dielectric layer and a structural layer may be provided. An opening may be formed through the active layer. a surface of the dielectric layer may be exposed and the active layer sidewalls are defined. A spacer covering a first portion of the exposed dielectric layer surface may be formed and substantially spanning one of the active layer sidewalls.

In the semiconductor device fabrication, it would have been obvious to one with ordinary skill in the art to clean the surface of layer between the process steps using conventional methods in order to remove any contamination and etching residues. The above cited claims differ from the prior art by specifying well-known features or conventional methods (such as wet cleaning in claim 4, plasma cleaning in claims 5 and 6, vapor cleaning in claim 7, forming silicide over the active layer in claim 9, active layer may comprise strained silicon in claim 11) to the art of semiconductor device fabrication, the examiner takes official notice. A person having ordinary skill in the art would have found it obvious to modify the prior art by adding any of same well-known features (conventional methods) to same in order to provide their art recognized advantages and produce an expected result with a reasonable expectation of success.

Dependant claim 12 differs from the prior art by specifying various dimensions (thicknesses). Because same are merely a matter of choices of design depending on the product requirements, it would be obvious to one skilled in the art to use various dimensions in order to accommodate the specific product design and meet the product requirement.

6. Claims 3-7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al. (US 6,150,286; col. 5, line 48 through col. 6; Figures).

Sun discloses that a substrate having an active layer, a dielectric layer and a structural layer may be provided. An opening may be formed through the active layer and a surface of the dielectric layer may be exposed and the active layer sidewalls are

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defined. A spacer covering a first portion of the exposed dielectric layer surface may be formed and substantially spanning one of the active layer sidewalls.

In the semiconductor device fabrication, it would have been obvious to one with ordinary skill in the art to clean the surface of layer between the process steps using conventional methods in order to remove any contamination and etching residues. The above cited claims differ from the prior art by specifying well-known features or conventional methods (such as wet cleaning in claim 4, plasma cleaning in claims 5 and 6, vapor cleaning in claim 7, active layer may comprise strained silicon in claim 11) to the art of semiconductor device fabrication, the examiner takes official notice. A person having ordinary skill in the art would have found it obvious to modify the prior art by adding any of same well-known features (conventional methods) to same in order to provide their art recognized advantages and produce an expected result with a reasonable expectation of success.

Dependant claim 12 differs from the prior art by specifying various dimensions (thicknesses). Because same are merely a matter of choices of design depending on the product requirements, it would be obvious to one skilled in the art to use various dimensions in order to accommodate the specific product design and meet the product requirement.


***Allowable Subject Matter***

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7. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kin-Chan Chen whose telephone number is (571) 272-1461. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*September 1, 2005*

  
Kin-Chan Chen  
Primary Examiner  
Art Unit 1765

K-C C